Circuit-breakers for power distribution
Electrical characteristics

				Tmax T1 1P	Tmax T1			Tmax T2			
Rated uninterrupted current			[A]	160	160			160			
Poles			[No.]	1	3/4			3/4			
Rated service voltage, **Ue**		(AC) 50-60 Hz	[V]	240	690			690			
		(DC)	[V]	125	500			500			
Rated impulse withstand voltage, **Uimp**			[kV]	8	8			8			
Rated insulation voltage, **Ui**			[V]	500	800			800			
Test voltage at industrial frequency for 1 min.			[V]	3000	3000			3000			
Rated ultimate short-circuit breaking capacity, **Icu**				**B**	**B**	**C**	**N**	**N**	**S**	**H**	**L**
	(AC) 50-60 Hz 220/230 V		[kA]	25*	25	40	50	65	85	100	120
	(AC) 50-60 Hz 380/400/415 V		[kA]	–	16	25	36	36	50	70	85
	(AC) 50-60 Hz 440 V		[kA]	–	10	15	22	30	45	55	75
	(AC) 50-60 Hz 500 V		[kA]	–	8	10	15	25	30	36	50
	(AC) 50-60 Hz 690 V		[kA]	–	3	4	6	6	7	8	10
	(DC) 250 V - 2 poles in series		[kA]	25 (at 125 V)	16	25	36	36	50	70	85
	(DC) 250 V - 3 poles in series		[kA]	–	20	30	40	40	55	85	100
	(DC) 500 V - 2 poles in series		[kA]	–	–	–	–	–	–	–	–
	(DC) 500 V - 3 poles in series		[kA]	–	16	25	36	36	50	70	85
	(DC) 750 V - 3 poles in series		[kA]	–	–	–	–	–	–	–	–
Rated service short-circuit breaking capacity, **Ics**											
	(AC) 50-60 Hz 220/230 V		[%Icu]	75%	100%	75%	75%	100%	100%	100%	100%
	(AC) 50-60 Hz 380/400/415 V		[%Icu]	–	100%	100%	75%	100%	100%	100%	75% (70 kA)
	(AC) 50-60 Hz 440 V		[%Icu]	–	100%	75%	50%	100%	100%	100%	75%
	(AC) 50-60 Hz 500 V		[%Icu]	–	100%	75%	50%	100%	100%	100%	75%
	(AC) 50-60 Hz 690 V		[%Icu]	–	100%	75%	50%	100%	100%	100%	75%
Rated short-circuit making capacity, **Icm**											
	(AC) 50-60 Hz 220/230 V		[kA]	52.5	52.5	84	105	143	187	220	264
	(AC) 50-60 Hz 380/400/415 V		[kA]	–	32	52.5	75.6	75.6	105	154	187
	(AC) 50-60 Hz 440 V		[kA]	–	17	30	46.2	63	94.5	121	165
	(AC) 50-60 Hz 500 V		[kA]	–	13.6	17	30	52.5	63	75.6	105
	(AC) 50-60 Hz 690 V		[kA]	–	4.3	5.9	9.2	9.2	11.9	13.6	17
Opening time (415 V)			[ms]	7	7	6	5	3	3	3	3
Utilisation category (IEC 60947-2)				A	A			A			
Reference Standard				IEC 60947-2	IEC 60947-2			IEC 60947-2			
Isolation behaviour				■	■			■			
Trip units:	thermomagnetic										
	T fixed, M fixed		TMF	■	–			–			
	T adjustable, M fixed		TMD	–	■			■			
	T adjustable, M adjustable (5...10 x In)		TMA	–	–			–			
	T adjustable, M fixed (3 x In)		TMG	–	–			■ (8)			
	T adjustable, M adjustable (2.5...5 x In)		TMG	–	–			–			
	magnetic only		MA	–	–			■ (MF up to In 12.5 A)			
	electronic		PR221DS	–	–			■			
			PR221GP/PR221MP	–	–			■			
			PR222DS	–	–			–			
			PR223DS	–	–			–			
			PR231/P	–	–			–			
			PR232/P	–	–			–			
			PR331/P	–	–			–			
			PR332/P	–	–			–			
Interchangeability				–	–			–			
Versions				F	F			F-P			
Terminals	fixed			FC Cu	FC Cu-EF-FC CuAl-HR			F-FC Cu-FC CuAl-EF-ES-R			
	plug-in			–	–			F-FC Cu-FC CuAl-EF-ES-R			
	withdrawable			–	–			–			
Fixing on DIN rail				–	DIN EN 50022			DIN EN 50022			
Mechanical life			[No. operations]	25000	25000			25000			
			[No. Hourly operations]	240	240			240			
Electrical life @ 415 V AC			[No. operations]	8000	8000			8000			
			[No. Hourly operations]	120	120			120			
Basic dimensions - fixed version		3 poles	W [mm]	25.4 (1 pole)	76			90			
		4 poles	W [mm]	–	102			120			
			D [mm]	70	70			70			
			H [mm]	130	130			130			
Weight	fixed	3/4 poles	[kg]	0.4 (1 pole)	0.9/1.2			1.1/1.5			
	plug-in	3/4 poles	[kg]	–	–			1.5/1.9			
	withdrawable	3/4 poles	[kg]	–	–			–			

TERMINAL CAPTION
F = Front
EF = Front extended
ES = Front extended spread
FC Cu = Front for copper cables
FC CuAl = Front for copper-aluminium cables
R = Rear orientated
HR = Rear flat horizontal
VR = Rear flat vertical
HR/VR = Rear flat orientated
MC = Multicable
F = fixed circuit-breakers
P = plug-in circuit-breakers
W = withdrawable circuit-breakers
(*) The breaking capacity for settings In = 16 A and In = 20 A is 16 kA

Tmax T3		Tmax T4					Tmax T5					Tmax T6[9]				Tmax T7[10]			
250		250/320					400/630					630/800/1000				800/1000/1250/1600			
3/4		3/4					3/4					3/4				3/4			
690		690					690					690				690			
500		750					750					750				–			
8		8					8					8				8			
800		1000					1000					1000				1000			
3000		3500					3500					3500				3500			
N	**S**	**N**	**S**	**H**	**L**	**V**	**N**	**S**	**H**	**L**	**V**	**N**	**S**	**H**	**L**	**S**	**H**	**L**	**V[6]**
50	85	70	85	100	200	200	70	85	100	200	200	70	85	100	200	85	100	200	200
36	50	36	50	70	120	200	36	50	70	120	200	36	50	70	100	50	70	120	150
25	40	30	40	65	100	180	30	40	65	100	180	30	45	50	80	50	65	100	130
20	30	25	30	50	85	150	25	30	50	85	150	25	35	50	65	40	50	85	100
5	8	20	25	40	70	80	20	25	40	70	80	20	22	25	30	30	42	50	60
36	50	36	50	70	100	150	36	50	70	100	150	36	50	70	100	–	–	–	–
40	55	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	25	36	50	70	100	25	36	50	70	100	20	35	50	65	–	–	–	–
36	50	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	16	25	36	50	70	16	25	36	50	70	16	20	36	50	–	–	–	–
75%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
75%	50% (27 kA)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
75%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	75%	100%	100%	100%	100%
75%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%[1]	100%[2]	100%	100%	100%	75%	100%	100%	75%	100%
75%	50%	100%	100%	100%	100%	100%	100%	100%	100%[1]	100%[2]	100%[2]	75%	75%	75%	75%	100%	75%	75%	75%
105	187	154	187	220	440	660	154	187	220	440	660	154	187	220	440	187	220	440	440
75.6	105	75.6	105	154	264	440	75.6	105	154	264	440	75.6	105	154	220	105	154	264	330
52.5	84	63	84	143	220	396	63	84	143	220	396	63	94.5	105	176	105	143	220	286
40	63	52.5	63	105	187	330	52.5	63	105	187	330	52.5	73.5	105	143	84	105	187	220
7.7	13.6	40	52.5	84	154	176	40	52.5	84	154	176	40	46	52.5	63	63	88.2	105	132
7	6	5	5	5	5	5	6	6	6	6	6	10	9	8	7	15	10	8	8
A		A					B (400 A)[3] - A (630 A)					B (630A - 800A)[5] - A (1000A)				B[7]			
IEC 60947-2		IEC 60947-2					IEC 60947-2					IEC 60947-2				IEC 60947-2			
■		■					■					■				■			
–		–					–					–				–			
■		■ (up to 50 A)					–					–				–			
–		■ (up to 250 A)					■ (up to 500 A)					■ (up to 800 A)[4]				–			
■		–					–					–				–			
–		–					■ (up to 500 A)					–				–			
■		■					–					–				–			
–		■					■					■				–			
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–		–					–					–				■			
–		■					■					■				■			
F-P		F-P-W					F-P-W					F-W[4]				F-W			
F-FC Cu-FC Cu Al-EF-ES-R		F-FC Cu-FC CuAl-EF-ES-R-MC					F-FC CuAl-EF-ES-R-RC					F-FC CuAl-EF-ES-R-RC				F-EF-ES-FC CuAl-HR/VR			
F-FC Cu-FC Cu Al-EF-ES-R		EF-ES-HR-VR-FC Cu-FC CuAl					EF-ES-HR-VR-FC Cu-FC CuAl					–				–			
–		EF-ES-HR-VR-FC Cu-FC CuAl					EF-ES-HR-VR-FC Cu-FC CuAl					EF-HR-VR				EF-HR/VR-RS-ES			
DIN EN 50022		–					–					–				–			
25000		20000					20000					20000				10000			
240		240					120					120				60			
8000		8000 (250 A) - 6000 (320 A)					7000 (400 A) - 5000 (630 A)					7000 (630A) - 5000 (800A) - 4000 (1000A)				2000 (S, H, L versions) / 3000 (V version)			
120		120					60					60				60			
105		105					140					210				210			
140		140					186					280				280			
70		103.5					103.5					103.5				154 (manual) /178 (motorizable)			
150		205					205					268				268			
1.5/2		2.35/3.05					3.25/4.15					9.5/12				9.7/12.5 (manual) - 11/14 (motorizable)			
2.7/3.7		3.6/4.65					5.15/6.65					–				–			
–		3.85/4.9					5.4/6.9					12.1/15.1				29.7/39.6 (manual) - 32/42.6 (motorizable)			

[1] 75% for T5 630
[2] 50% for T5 630
[3] Icw = 5 kA
[4] W version is not available on T6 1000 A
[5] Icw = 7.6 kA (630 A) - 10 kA (800 A)
[6] Only for T7 800/1000/1250 A
[7] Icw = 20 kA (S,H,L versions) - 15 kA (V version)
[8] For availability, please ask ABB SACE
[9] For T6V version please ask ABB SACE
[10] For T7V version please ask ABB SACE

Notes: In the plug-in version of T2, T3 and T5 630 and in the withdrawable version of T5 630 the maximum rated current available is derated by 10% at 40 °C

Ordering codes
Circuit-breakers for use up to 1150 V AC and 1000 V DC

T4 250 – Fixed (F) – 3 Poles - Front terminals for copper cables (FC Cu)

Electronic trip unit	In		Icu (1000 V AC) Icu (1150 V AC)	1SDA.....R1				
				L (12 kA)	**V** (20 kA - 12 kA)			
PR221DS-LS/I	100			054505	054513			
PR221DS-I	100			054506	054514			
PR222DS/P-LSI	100			054507	054515			
PR222DS/P-LSIG	100			054508	054516			
PR221DS-LS/I	250			054509	054517			
PR221DS-I	250			054510	054518			
PR222DS/P-LSI	250			054511	054519			
PR222DS/P-LSIG	250			054512	054520			
PR222MP	100			063434				
PR222MP	160			063435				
PR222MP	200			063436				

T4 250 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)

Electronic trip unit	In		Icu (1000 V AC) Icu (1150 V AC)	1SDA.....R1				
				L (12 kA)	**V** (20 kA - 12 kA)			
PR221DS-LS/I	100			063418	063426			
PR221DS-I	100			063419	063427			
PR222DS/P-LSI	100			063420	063428			
PR222DS/P-LSIG	100			063421	063429			
PR221DS-LS/I	250			063422	063430			
PR221DS-I	250			063423	063431			
PR222DS/P-LSI	250			063424	063432			
PR222DS/P-LSIG	250			063425	063433			

T4 250 – Fixed (F) – 3 Poles - Front terminals for copper cables (FC Cu)

Thermomagnetic trip unit - TMD and TMA	In	I_3	Icu (1000 V AC) Icu (1150 V AC)	1SDA.....R1				
				V (20 kA - 12 kA)				
	32	320		063410				
	50	500		063411				
	80	400...800		063412				
	100	500...1000		063413				
	125	625...1250		063414				
	160	800...1600		063415				
	200	1000...2000		063416				
	250	1250...2500		063417				

T4 250 – Fixed (F) – 4 Poles - Front terminals for copper cables (FC Cu)

Thermomagnetic trip unit - TMD and TMA	In	I_3	Icu (1000 V AC) Icu (1150 V AC) Icu (1000 V DC)	1SDA.....R1				
				V (20 kA - 12 kA - 40 kA)				
	32	320		054497				
	50	500		054498				
	80	400...800		054499				
	100	500...1000		054500				
	125	625...1250		054501				
	160	800...1600		054502				
	200	1000...2000		054503				
	250	1250...2500		054504				